BEFORE THE
Federal Communications Commission
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	**WT Docket No. 02-55**
Improving Public Safety Communications in the 800 MHz Band	)	
	)	
Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels	)	

TO: The Commission

COMMENTS OF ENTERGY CORPORATION AND ENTERGY SERVICES, INC.

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EXECUTIVE SUMMARY

While eliminating interference to Public Safety systems is a laudable and important goal, radical band reallocation is not the answer. The current proposals are over-broad and fail to address adequately the problem they are purporting to solve. For example, there is no evidence that a band reallocation would solve what appears to be the most common interference problem: intermodulation. Further, the proposals outlined in the *NPRM* would have devastating consequences for utility users of the 800 MHz band, and could compromise their ability to maintain and protect the nation's vital electric infrastructure. Rather, a simple, market-based solution offers the best alternative for the Commission to alleviate harmful interference. A market-based solution should define harmful interference and the events that would trigger a resolution procedure, clarify the rights and obligations of each party, and avoid limiting or mandating possible remedies. By establishing a simple resolution procedure, such as negotiation and arbitration, the FCC can ensure a prompt resolution to complaints of Public Safety interference and can avoid impacting licensees that are not directly involved or responsible for the interference problem.

Such a solution would permit licensees to take full advantage of the myriad technical solutions available to deal adequately with interference problems, such as simply altering antenna configurations, replacing combiners, or varying signal strength. These inexpensive and effective solutions should be fully evaluated and instituted prior to the Commission even considering a widespread band reallocation.

Band reallocation should be a last-resort and should only be employed if all other avenues of interference resolution prove fruitless. Further, the plans currently offered are grossly deficient, and should not be adopted even if the FCC determines reallocation is

necessary. The FCC must be cognizant of cost-causation and other principles that have guided band reallocation decisions in the past.

The plan offered by Nextel offers only limited benefits with unjustified and unreasonable expense imposed upon 800 MHz licensees that neither cause interference to, nor receive interference from, Public Safety licensees. While Nextel has offered $500 million in funding to relocate Public Safety and replacement spectrum in its current 700 or 900 MHz holdings, these gestures are completely hollow. The funds offered would not even begin to cover the expense of moving Public Safety, and innocent 800 MHz users would be left to relocate themselves at an unprecedented and enormous cost, in hard expenses, lost equipment, and man-hours. Further, spectrum at either 700 or 900 MHz is completely inadequate to replace the coverage and functionality of many sophisticated and extensive utility networks. This result is not justified, and contravenes the Commission's precedent in spectrum reallocation proceedings such as the *Emerging Technologies* docket. The only entity the plan really benefits is Nextel, which appears to be largely responsible for the problem in the first place.

The NAM and FCC plans are similarly infirm. While on a lesser scale than the plan offered by Nextel, these plans would impose significant expense on a substantial number of licensees with no demonstrated corresponding benefit. Neither plan adequately addresses the funding or cost allocation that would accompany either an in-band or out-of-band forced migration. Further, the FCC plan fails to address General Category assignments or NPSPAC channel operations adjacent to cellular bands. NAM also fails to discuss timing and logistics adequately. These plans, like Nextel's proposal, are overly broad and fatally vague in a number of respects.

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Pursuant to Section 1.415 of the FCC's Rules, Entergy Corporation and Entergy Services, Inc. (collectively, "Entergy") hereby submit their Comments in the above-captioned proceeding.[1] Entergy fully supports the goal of ensuring that land mobile radio systems used to support Public Safety are not subject to harmful interference. The current proposals, however, are tremendously over-inclusive and threaten to sweep up innocent licensees into their indiscriminant dragnet. Prudence dictates a more proportionate, market-based response that minimizes both cost and disruption to all potentially affected parties, and avoids massive, unnecessary spectrum reallocations.

[1] In re Improving Public Safety Communications in the 800 MHz Band, Consolidating the 900 MHz Industrial/Land Transportation and Business Pool Channels, WT Docket No. 02-55, *Notice of Proposed Rule Making*, FCC 02-81, (rel. March 15, 2002), 67 Fed. Reg. 16351 (April 5, 2002) ("*NPRM*").

I. INTRODUCTION

A. Background

The *NPRM* recites that various Public Safety licensees have reported experiencing some level of interference to their 800 MHz land mobile radio systems in recent years.[2] The Commercial/Public Safety Interference Task Force was organized to identify the scope and causes of the reported interference. The task force, comprised of Public Safety licensees' representatives, cellular carriers, Nextel, and Motorola, published a set of survey responses in November 2000[3] and a "Best Practices Guide" in December 2000.[4] The 36 published survey responses generally indicated that Public Safety users have experienced higher than expected levels of interference in the immediate vicinity (*e.g.*, within 1,000-4,000 feet) of certain cell sites that house 800 MHz transmitting equipment. Nextel and certain other commercial cellular carriers own the majority of the offending sites.

Admitting to being a significant cause of the interference affecting Public Safety communications, Nextel Communications, Inc. filed a proposal with the FCC on November 21, 2001, requesting a number of radical changes to the current 800 MHz landscape.[5] Specifically, Nextel called for: (1) assignment of additional spectrum in the 2.1 GHz band for its own

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[2] *NPRM* at 9 ¶14.

[3] Special Assignment Technical Report; 800 MHz Interference Survey Response, Public Safety Wireless Network (Nov. 2000).

[4] Avoiding Interference Between Public Safety Wireless Communications Systems and Commercial Wireless Communications Systems at 800 MHz - A Best Practices Guide (Dec. 2000) ("*Best Practices Guide*").

[5] Promoting Public Safety Communications -- Realigning the 800 MHz Land Mobile Radio Band to Rectify Commercial Mobile Radio - Public Safety Interference and Allocate Additional Spectrum to Meet Critical Public Safety Needs, at 9 (Nov. 21, 2001) ("*Nextel White Paper*").

exclusive nation-wide operations; (2) removal of Business and Industrial/Land Transportation systems from the 800 MHz band; (3) realignment of the channel plan for the 800 MHz band; (4) reallocation of Public Safety channels at 800 MHz; and (5) imposition of assessments against all non-Public Safety users of the 800 MHz band, including cellular licensees, for reimbursement of Public Safety's relocation costs.

The FCC initiated the present rulemaking to explore all of the options available for resolving the potential for interference from Nextel's system to Public Safety radio systems. Entergy supports the FCC's goal of promptly eliminating the cause(s) of this interference in order to preserve the ability of Public Safety licensees to use their land mobile radio systems effectively for the protection of life, health and property.[6] As explained herein, Entergy also relies on its private land mobile radio system to support mission critical utility operations affecting virtually every resident and business in its operating territory, including hospitals, schools, fire stations and centers of government. Because of its own reliance on private land mobile radio and its frequent interaction with Public Safety agencies within its operating territory, Entergy has a thorough understanding of the importance of private land mobile communications in support of Public Safety, and the risks inherent in operating radio systems that could be subject to harmful interference.

B. Entergy's Interest in the Proceeding

Entergy Corporation is one of the largest electric utility holding companies in the country. Entergy Corporation's subsidiaries include Entergy Services, Inc. and five electric utility operating companies (or "OPCOs") – Entergy Gulf State Utilities, Entergy Arkansas, Inc.,

[6] 47 C.F.R. § 337(f)(1).

Entergy Louisiana, Inc., Entergy Mississippi, Inc. and Entergy New Orleans, Inc. Together, the OPCOs own and operate an integrated electric utility system under the Entergy umbrella that serves approximately 3 million customers and covers 130,000 square miles. The Entergy service territory includes most of Louisiana and Arkansas, a portion of Texas and the western half of Mississippi.

To facilitate its internal communications and monitoring of its power generation and distribution system, Entergy operates extensive and complex private land mobile and microwave communications systems. Entergy has frequencies licensed in the 150-174 MHz, 450-470 MHz, and 800 MHz bands. Entergy has significant operations in the 800 MHz band particularly, which consist of a sophisticated and comprehensive network of 170 base sites and 8,000 mobile units utilizing 240 talk groups. These mobile communications systems support Entergy's vital utility operations, including dispatch service, construction and transmission crews and communications to meter-reading and engineering personnel in the field. Entergy also has hundreds of private operational fixed microwave licenses. All told, Entergy estimates that it has invested over 10 years and $70 million to date to acquire, build and maintain its 800 MHz network. Entergy is thus vitally interested in the Commission's *NPRM* as it could affect Entergy's current spectrum home as well as future access to spectrum, and could potentially render its substantial investment in its communications system valueless.

II. THE PROCEEDING SHOULD FOCUS STRICTLY ON THE ISSUE OF INTERFERENCE

The current proceeding has been initiated to resolve allegations of interference between Nextel's low-site digital transmitters and existing Public Safety systems. The injection of additional issues related to Public Safety allocations or Nextel's grab for valuable additional

spectrum is likely to delay ultimate resolution of the more critical interference issues which have been raised by the Public Safety community. While a separate critical infrastructure allocation is a topic worthy of the FCC's attention in a separate proceeding, it could potentially cause the FCC to wade into issues ancillary to Public Safety interference, delaying the resolution of the issue indefinitely. Accordingly, the FCC should deal solely with the issue of Public Safety interference in this proceeding.

III. THE PROBLEM OF PUBLIC SAFETY INTERFERENCE MUST BE MORE CLOSELY EXAMINED

A. The Issue Is Not Sufficiently Documented

There is much that is unknown about the exact nature of Public Safety interference, including the precise genesis and extent of the problem.[7] To date, the only evidence of interference is largely anecdotal, and no scientific study has been conducted to document or analyze the scope of the problem or the types of interference being experienced. It stands to reason that an effective solution cannot truly be crafted until the FCC has a more thorough understanding of the problem. Accordingly, the FCC should more closely examine the issue, qualitatively and quantitatively, to ensure that the solution is proportionate to the problem and that it actually addresses the appropriate issue.

While the work of the Public Safety community is vital to our national security and welfare, and reliable land mobile communications are necessary to support that work, many of the proposals put forth in this proceeding assume that a much more widespread problem exists

[7] To date, the responses to the Task Force Survey appear to be approximately 90.

than the evidence indicates. Further, the current proposals would have particularly devastating consequences for Entergy and other utility users of the 800 MHz band, compromising their ability to ensure the efficiency and reliability of the nation's electric infrastructure. Given the potentially far-reaching impact of this proceeding, significantly more concrete documentation must be gathered addressing the nature and scope of the problem. Without discounting the importance of even isolated incidents of interference to Public Safety systems, Entergy believes that there are far less drastic means of fully protecting Public Safety communications systems.

B. Possible Causes of Interference

The co-existence of Public Safety entities and CMRS carriers in the 800 MHz band has not historically been a problem. Public Safety and CMRS licensees have operated in the 800 MHz band since 1974, and have shared the 800 MHz band on an interleaved basis since 1982.[8] Yet, it was not until March 1998 that reports of interference to Public Safety began to surface.[9] While the precise extent of the problem is not well documented, a number of parties have cited several possible factors, consistently citing to Nextel's deployment of a low-site digital network. For purposes of these comments, a brief summary of some of the causes and factors that may contribute to interference is laid out below.

In the *NPRM*, the Commission posits that several general aspects of the 800 MHz radio frequency environment heighten the likelihood of interference between Public Safety systems and Nextel's low-site digital systems. For example, the signals of Public Safety analog systems

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[8] *NPRM* at ¶ 7.

[9] Joe Kuran, Timeline of Events Relating to Harmful Interference (Dec. 19, 2001), located in Project 39 Interim Report to FCC on Interference to Public Safety 800 MHz Radio Systems, RoxAnn Brown, Chairperson, at 58 (Dec. 24, 2001).

utilizing few high-site base stations may be overwhelmed by the power transmission of digital systems utilizing many sites to blanket a geographical area.[10] In addition, Public Safety receivers' lack of frequency selectivity[11] and channel proximity may contribute to the potential for interference.[12]

The FCC has also identified certain possible discrete causes of interference that have been reported by Public Safety licensees, including intermodulation, transmitter sideband noise and receiver overload. APCO has reported that it believes intermodulation from low-site digital systems to be the predominant cause of interference to Public Safety entities in the 800 MHz band.[13] Other anecdotal evidence identifies sideband noise as a possible source of interference, possibly due to the use of hybrid combiners like those employed by Nextel.[14] It does not appear, however, that modern receivers are particularly susceptible to receiver overload.[15]

IV. A MARKET-BASED APPROACH TO ELIMINATING HARMFUL INTERFERENCE TO PUBLIC SAFETY SYSTEMS IS A BETTER SOLUTION

Like several other electric utilities submitting comments in this proceeding, Entergy believes that a market-based solution can be readily crafted that will benefit all parties, protect Public Safety from harmful interference, permit flexibility in accommodating disparate radio

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[10] *NPRM* at ¶¶ 11-15; *Best Practices Guide* at 6-7.

[11] *NPRM* at ¶ 15; *Best Practices Guide* at 6-7.

[12] NPRM at ¶¶ 15, 20; *Best Practices Guide* at 6.

[13] Project 39 Interim Report to FCC on Interference to Public Safety 800 MHz Radio Systems, RoxAnn Brown, Chairperson, at 3 (Dec. 24, 2001).

[14] Roger Combs, Nextel Interference: A Transmitter-Filtering Issue?, RadioResource Magazine, April 2002, at 10 (Letter to the Editor).

[15] *Best Practices Guide* at 9.

systems in the 800 MHz band and minimize, if not eliminate, detrimental impacts on other users of the band. Furthermore, a logical, market-based solution can adequately resolve the core interference problem without radical rebanding and large, unnecessary expenditures. Entergy therefore urges the Commission to adopt a well-measured response to the problem at hand, and to resist Nextel's call for solutions in search of a problem.

A. Guiding Principles

In developing a proposal for a market-based solution, Entergy believes that a few basic principles must govern any solution that is adopted to resolve Public Safety interference. An effective solution should: (1) define harmful interference and the events that would trigger a resolution procedure; (2) clarify the rights and responsibilities of each party; (3) avoid limiting or mandating possible remedies; (4) ensure prompt resolution of Public Safety interference complaints with minimal FCC involvement; and (5) avoid impacting licensees not directly involved in or responsible for the interference problem.

1. Defining Harmful Interference and Triggering Events

For purposes of resolving conflicts between stations licensed under Part 90, "harmful interference" is defined as "any emission, radiation, or induction which specifically degrades, obstructs, or interrupts the service provided by such stations."[16] This functional definition is not dependent on any arbitrary signal levels or carrier/interference ratios. While such standards may provide additional certainty, they are not necessary to resolve complaints between licensees. Rather, the first step in resolving interference is to define triggering events that would establish

[16] 47 C.F. R. § 90.7 (2001).

the responsibility of the digital system licensee to cooperate with the Public Safety licensee to resolve and eliminate the harmful interference.

2. Rights and Responsibilities of Each Party Must be Clear

In the 800 MHz band, the specific licensees causing and receiving the interference are responsible for resolving the problem. Section 90.173 of the FCC's rules requires that "all applicants and licensees shall cooperate in the selection and use of frequencies in order to reduce interference" through mutually satisfactory arrangements.[17] If the licensees are unable to reach an agreement, however, the FCC "may impose restrictions[,] including specifying the transmitter power, antenna height, or area or hours of operation of the stations concerned."[18] Section 90.403(e) contains a similar rule on interference mitigation, requiring all licensees to "take reasonable precautions to avoid causing harmful interference."[19] As a last resort, the FCC may relocate the *interfering* licensee.[20]

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[17] 47 C.F.R. § 90.173(b) (2001). The FCC's Best Practices Guide also counsels commercial licensees and Public Safety agencies to collaborate and share responsibility for avoiding interference.

[18] Id. In some instances under Part 90, the FCC has announced that it would employ a "first-in-time" principle by which the last licensee to commence operations would have to resolve any interference. *See* In re Amendment of Parts 2, 22, and 90 of the Commission's Rules to Allocate Spectrum in the 928-941 MHz and to Establish Other Rules, Policies, and Procedures for One-Way Paging Stations in the Domestic Public Land Mobile Service and the Private Land Mobile Radio Services, GEN Docket No. 80-183, RM-2365, RM-3047, RM-3068, *Second Report and Order*, 91 FCC2d 1214, 1223 ¶ 32 (1982).

[19] Id. § 90.403(e).

[20] *See* In re Application of American Television of Utah, Inc. Salt Lake City, Utah; For a Television Construction Permit, File No. BPCT-790822KE, *Memorandum Opinion and Order*, 1984 FCC LEXIS 1530, *5 (1984) ("Generally, channel changes are used as a last resort where there is, or a petitioner has established a reasonable likelihood of, interference, and where all efforts to filter out such interference fails.").

Thus, in the 800 MHz band, the interfering party is primarily responsible for preventing harmful interference. If interference does occur, however, the FCC's rules set forth a hierarchy of preferred interference mitigation techniques: (1) mutual agreement between the affected licensees; (2) imposition of technical restrictions on the licensees; and (3) relocation of the offending licensee. Neither Section 90.173(b) nor Section 90.403(e) mandates the participation of innocent third-party licensees in interference mitigation.

Nextel's status as a significant source of interference in the 800 MHz band is well documented in reports by Public Safety agencies as well as anecdotal evidence. For example, in its Project 39 Interim Report, APCO found that thirty of the forty-five Public Safety agencies reporting 800 MHz interference cited Nextel as the culprit.[21] Although Nextel has publicly admitted causing interference in only twelve states,[22] a survey conducted by the Portland Oregonian found that Public Safety operators in twenty-one states have complained that Nextel caused substantial interference to their systems and that operators in five other states suspected that Nextel was their interference source.[23] In Phoenix, for example, the city's deputy information technology director stated that Nextel's "towers make our system look like Swiss cheese."[24] Overall, out of the twenty-eight states responding to the Oregonian's survey, twenty-

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[21] *See* APCO, Project 39: Interference to Public Safety 800 MHz Radio Systems, Interim Report to the FCC (Dec. 24, 2001), *available at* http://www.apco911.org/afc/project_39/interim_report.pdf.

[22] The Portland Oregonian reported that Nextel has conceded that it caused interference in Arizona, California, Colorado, Florida, Louisiana, Maryland, New Jersey, New York, North Carolina, Ohio, Oregon, and Washington. *See* Emily Tsao and Ryan Frank, *Emergency Calls Crowded Out the Stage for Problem*, OREGONIAN (Portland), Aug. 5, 2001, at A01.

[23] *See* Id.

[24] *See* Ryan Frank and Emily Tsao, *Nextel Frees Police Airwaves: The Company Reduces Cell-Phone Interference that Blocked Fire and Police Radios in Portland, But Other Cities Still Face Problems*, OREGONIAN (Portland), Jan. 6, 2002, at B01.

six pinpointed Nextel as the actual or potential source of the harmful interference.[25] Even the Chief of the Wireless Bureau has stated that Nextel is the likely cause of interference to Public Safety licensees in the 800 MHz band.[26] Thus, precedent and prudence dictate that any resolution adopted in this proceeding must ensure that only the parties causing the interference to Public Safety are obligated to participate in the solution.

3. Limiting or Mandating Remedies is Not Appropriate

Since the Nextel/Public Safety problem was first reported in 1998, significant effort has gone into determining technical solutions, which have often been successful. The *Best Practices Guide* and Motorola's "Interference Technical Appendix (Issue 1.41)" contain numerous technical solutions that can either reduce to an acceptable level or completely eliminate interference due to intermodulation, sideband noise or receiver overload. Other innovative solutions are also available, and will likely only increase with time.

For example, Frontier Radio Communications, a company that designs, sells, installs, and services digital wireless communications equipment, discovered that a hybrid combiner used by Nextel was the source of a significant amount of interference being encountered at the Las Vegas Convention Center.[27] Simply replacing the hybrid combiner with "a newer type of combiner" (Frontier Radio did not provide further details on the type), dramatically reduced the

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[25] Since the date of this survey, more than six months ago, new interference problems involving Nextel have arisen, including several complaints from New Jersey Public Safety agencies. *See* Jacob Quinn Sanders, *Upgrade Near for Emergency Radio System; Montco Will Vote Next Week. Cell-Phone Signals Have Been Hampering Some Transmissions*, PHILA. INQUIRER, Mar. 15, 2002.

[26] *See* Allyson Vaughan, *FCC Tackles 800 MHz Interference Problems*, WIRELESS WEEK, Mar. 18, 2002, at 4 (citing Tom Sugrue, Chief of the Wireless Bureau, as agreeing that the cause of the interference is "more on the Nextel side").

interference, permitting signal reception where the noise floor was previously completely unacceptable.[28] This is a prime example of a simple solution to a specific problem, and a vivid illustration of why the Commission should permit a variety of avenues for technical resolution of an interference problem.

In short, a number of technical solutions have already been identified to resolve Public Safety interference, and more certainly exist. The FCC should not mandate or prohibit any particular interference-reducing measures, but should allow parties the flexibility to craft an appropriate solution based on the needs of the party and the nature of the problem.

4. Prompt Resolution of Public Safety Interference Complaints Must be Ensured with Minimal FCC Involvement

Due to limited FCC resources, a framework for resolving interference complaints should, to the extent possible, minimize the need for FCC involvement. A market-based solution should create the opportunity and incentive for parties to eliminate harmful interference, with recourse to the FCC only in the most egregious situations.

5. Licensees Not Directly Involved in the Interference Problem Should not be Impacted

In its *White Paper,* Nextel claims that "[i]ncident-by-incident, after-the-fact interference remediation will inevitably fail to protect fully [Public Safety officials] and fail to keep pace with the evolving communications needs of both Public Safety and commercial communications providers."[29] Nextel also contends that relying on technical solutions would result in an "ongoing

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[27] Roger Combs, *Nextel Interference: A Transmitter-Filtering Issue?*, RadioResource Magazine, April 2002, at 10 (Letter to the Editor).

[28] Id.

[29] *Nextel White Paper* at 23.

burden" and "spectral constraints" on commercial carriers (it describes neither the alleged burden nor constraints in any detail).[30] The *Nextel White Paper*, however, is ambiguous on the point of whether technical approaches could be effective. Nextel represents that it has considered a variety of alternatives to reallocation as means of resolving interference,[31] and concludes:

> None of these alternatives effectively achieves the essential public interest objective of correcting the fundamental cause of CMRS - Public Safety interference at 800 MHz *while making a significant amount of near-term spectrum available for enhanced and expanded Public Safety communications networks.*[32]

On its face, this statement reveals that Nextel rejected the use of alternatives to reallocation because they *do not also involve additional spectrum for Public Safety.* As noted above, resolving Public Safety interference should drive this proceeding, and the FCC should not let the possibility of allocating additional spectrum to Public Safety cloud the issue.

B. Recommendations

Applying the foregoing principles to the types of interference Nextel is causing to Public Safety licensees in the 800 MHz band, Entergy recommends adoption of the following market-based approach.

1. Establish Threshold Parameters to Facilitate the Identification of Facilities That Might Be Causing Interference to Public Safety Systems

One of the challenges facing an entity experiencing interference is identifying the potential source(s) of the interference. This is particularly problematic in the case of systems

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[30] *Nextel White Paper* at 24.

[31] *Nextel White Paper* at 30-31.

[32] *Id.* at 31.

such as Nextel's, as individual transmitter locations may not be individually licensed and therefore cannot be identified in the Universal Licensing System database.

The primary indicator of interference potential appears to be high field strength in the immediate vicinity of a digital transmitter. Further, such high field strengths are typically associated with digital transmitter sites having relatively low antennas and multiple transmit frequencies. Therefore, one means of identifying potential sources of interference would be to require all 800 MHz digital system licensees to populate a national database with the locations of all transmit locations with antenna heights less than 200 feet AGL.[33] Because this database would not be used for frequency coordination *per se*, the information collection and retention burden would be minimal. The only necessary fields would include: (1) licensee name; (2) licensee contact information; and (3) geographic coordinates of the antenna structure. A penalty should be implemented to ensure registration and the integrity of the data. Further, to make certain that the database would only be used for purposes of interference resolution, it should be hosted by a neutral third party.

In order to establish basic responsibilities for interference resolution, the FCC's rules could require that any licensee of a digital 800 MHz system with a low-site transmitter (*i.e.*, less than 200 feet AGL) that is located within one mile of the location at which interference is experienced bear the burden of either eliminating the interference or demonstrating that the licensee is not causing it. In this manner, a Public Safety licensee could more readily identify potential interference sources, and would have rights to compel the cooperation of these licensees in resolving the situation.

[33] An alternative approach would be to develop a database of sites at which a calculated or measured field strength exceeds certain levels within a fixed distance from the antenna structure.

2. Clarify Responsibility of Interfering Licensee(s) to Eliminate Interference to Public Safety Systems

Once the potential sources of interference to a Public Safety system are identified, the burden should be on the interfering licensee to take steps to eliminate the interference to the Public Safety system. At the same time, the Public Safety licensee should have a corresponding obligation to cooperate in the implementation of the most cost-effective solution. Such a corresponding obligation is necessary to eliminate the potential for an interference case to be used as an opportunity to compel system "upgrades" or additional benefits that go beyond what is strictly necessary to resolve the interference.

3. Establish Timeframes to Ensure Prompt Resolution

Interference to a Public Safety radio systems should be corrected promptly. To ensure swift resolution of interference cases, Entergy recommends that the FCC establish specific timeframes within which parties must act. For example, to ensure prompt initiation of discussions, the FCC could require a licensee that is identified by a Public Safety licensee as a potential source of harmful interference to communicate with the Public Safety complainant within ten (10) business days of receiving a written notice from the Public Safety licensee identifying: (1) the nature of the interference; and (2) the location in which the interference was encountered.[34] Within this 10-day period, the respondent licensee could be required to identify personnel who will be responsible for working with the Public Safety licensee to analyze the situation and, if necessary, to implement appropriate corrective measures.

However, this approach to identifying potential interference sources would be difficult to administer and enforce.

Further, to ensure that the parties work promptly toward a solution, either party should be permitted to initiate binding arbitration, as described below, if an agreement is not reached within 60 days after the Public Safety licensee's written notice of interference. To the extent the parties are working cooperatively toward a solution, arbitration would not be necessary. However, the availability of this option will give either party a right to seek a final resolution of the issue if the voluntary negotiations are not proceeding at a suitable pace.

4. Allow Parties to Use a Range of Options to Resolve Interference

As previously discussed, myriad different techniques have been identified to resolve Public Safety interference at 800 MHz. Moreover, as more experience is gained in analyzing these cases, additional solutions will undoubtedly be found. The FCC, therefore, should facilitate innovative resolution of interference problems by permitting a wide range of technical and administrative solutions.

For example, parties should be free to install new or modified equipment at the site of the interference-causing transmitter or in the Public Safety complainant's radio system. Parties should be free to alter signal ratios by reducing the interfering signal in the interference area or increasing the Public Safety signal in the area (such as through an increase in transmitter power or installation of a signal booster). As a last resort, the interfering licensee may be required to terminate operation on the offending frequencies.

To the extent a change of frequency would mitigate the interference, the parties should be permitted to enter a voluntary agreement providing for relocation of the Public Safety licensee's

[34] In emergency situations where severe interference poses an immediate threat to safety of life, a digital system licensee receiving notice that it is a potential source of interference should have a duty to respond immediately and to assist in resolving the interference as soon as possible.

radio system to other frequencies in the 800 MHz band or another band.[35] The Commission should liberally waive the eligibility rules to permit relicensing of digital systems in the NPSPAC channels as part of a voluntary frequency swap with a Public Safety licensee to resolve an interference case.[36] Voluntary frequency swaps with non-Public Safety licensees should also be permitted to resolve Public Safety interference disputes. However, the FCC should also make clear that these licensees, who are not party to the interference dispute, are under no obligation to negotiate or to engage in arbitration.

5. Adopt Procedures for Third-Party Arbitration of Disputes to Minimize FCC Involvement

Entergy further believes that alternative dispute resolution (ADR) procedures, such as arbitration, could be an effective method resolving any interference disputes. The Commission has previously found that the use of ADR procedures can "help resolve disputes in a timely fashion" when negotiations fail.[37] The Commission has even adopted a policy statement, in which it "supports and encourages the use of alternative dispute resolution procedures in its

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[35] Voluntary relocation to Public Safety allocations at 700 MHz would appear to be an ideal solution.

[36] Waiver of eligibility should be limited to resolving a bona fide interference case, and not for a wholesale reallocation of channels.

[37] In re Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band; Implementation of Sections 3(n) and 332 of the Communications Act -- Regulatory Treatment of Mobile Services; Implementation of Sections 309(j) and 332 of the Communications Act -- Competitive Bidding, PR Docket No. 93-144; GN Docket No. 93-252; PP Docket No. 93-253; RM-8117; RM-8030; RM-8029, *Second Report and Order*, 12 FCC Rcd 19080,19125 (1997).

administrative proceedings."[38] Congress has also strongly supported the use of ADR procedures to resolve administrative proceedings.[39]

Previous uses of arbitration by the FCC include resolving disputes over the price of home run wiring[40] and resolving competitive local exchange carriers' requests for interconnection, services, and network elements.[41] Given the FCC's positive experiences with ADR, the Commission could prescribe effective arbitration procedures to resolve disputes concerning harmful interference as well.

Arbitration is an efficient method for resolving disputes without overburdening the Commission's resources. Procedural rules could be tailored to promote quick resolution by experts with an understanding of the specific issues associated with the resolution of interference. For example, the arbitration rules for the pricing of home run wiring provide that the parties must select an arbitrator within seven days.[42] Similar deadlines in the interference context could permit disputes to be resolved promptly.

Arbitration would also encourage parties to resolve their differences through negotiations. The prospect of arbitration may provide an incentive for the parties to explore the circumstances surrounding the cause of interference within a definite period of time. This process is also likely to promote settlements, as the parties are forced to scrutinize the basis for their claim. To provide an additional opportunity for settlement, the Commission could also

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[38] 47 C.F.R. § 1.18; *See also*, In re Use of Alternative Dispute Resolution Procedures in Commission Proceedings in which the Commission is a Party, GC Docket No. 91-119, *Initial Policy Statement and Order*, 6 FCC Rcd 5669 (1997).

[39] *See* Pub. L. 101-552, 104 Stat. 2739 (Nov. 15, 1990), *reauthorized under* Pub. L. 104-320, 110 Stat. 3870 (Oct. 19, 1996) (codified as amended at 5 U.S.C. §§ 571-583).

[40] 47 C.F.R. § 76.804(a) (2001).

[41] 47 C.F.R. § 51.807 (2001).

[42] 47 C.F.R. § 76.804(a)(3) (2001).

institute a period of time after the arbitration hearing for further negotiation. This may be accomplished by delaying the arbitrator's decision until a few days after the hearing.[43]

Arbitration would also conserve the resources of both parties, as arbitration procedures can be designed to be more streamlined than the Commission's procedures. Indeed, many disputes would likely lend themselves to a review based on the party's documentation, perhaps supplemented with field tests undertaken or directed by the arbitrator. This is particularly important to Public Safety licensees whose budgets are often limited. Commission resources will also be conserved, as the FCC could limit its role by implementing regulations that govern the appeal process and the standard of review. Regulations could also ensure that the arbitration is conducted efficiently by dictating: (1) how an arbitrator is selected; (2) how the arbitration hearing is conducted; (3) when a decision will be issued; and (4) that parties must participate in good faith or they will be penalized.

V. BAND REALIGNMENT IS NOT THE ANSWER

A. Realignment Will Not Fix Intermodulation Interference

There is insufficient evidence to warrant a massive realignment of the bands allocated to Industrial/Land Transportation and Business licensees as a solution to the problem of Public Safety interference. As noted above, Nextel and others appear to acknowledge that intermodulation is the chief source of the interference to Public Safety operations.[44] As noted in the *NPRM*, however, there is significant question as to whether realignment would even cure this

[43] *See e.g.*, 47 C.F.R. § 51.807(d)(3) (2001) (the arbitrator is not permitted to issue a decision for fifteen days).

[44] *Nextel White Paper* at 21.